

having been transferred, on account of diarrhoea, from No. 1 cell on that day. He also, being a long-sentenced man, was confined in the inner yard during the day, and used the latrine just outside the walls. He came from Sunkeraninarkovil, and was admitted into jail on the 19th August 1876.

Next comes Ananja Kone, a long-sentenced man, transferred on the 4th for the same reason as the last mentioned, from No. 1 cell to No. 4, in which he slept on the night of the 4th. He was attacked on the 5th, but recovered. He came from Sunkeraninarkovil, and was admitted into jail on the 19th August 1876.

We now come to Caruppana Jhevan, a short-sentenced man who slept in No. 1 cell on the night of the 4th. He was admitted on the 28th September.

Next comes Letchumana Perumal, who was transferred from No. 5 to No. 4 cell on the 4th November, consequent on the women being removed from No. 4 to No. 5 cell, on that day. He was admitted on the 25th October.

There remain two long-sentenced men, both admitted on the 19th August—Andy Jhevan and Poolappa Jhevan, both belonging to No. 1 cell; but the latter was transferred to No. 4 cell on the 4th.

Let us now trace the cholera cause through the cells.

It did not exist at any time in No. 5,\* for no cases occurred amongst those who had occupied it up to the 4th, excepting one, who, it will be shown, was infected *after* leaving it, and no case occurred amongst those occupying it on and after the 4th.

It did not exist in No. 4 up to the 4th\*; for, not one of the women or children who occupied it up to the 4th was attacked.

It was introduced (in all probability) into No. 4 cell on the 4th; for a man who entered it on that day, with what was supposed to be diarrhoea, died of malignant cholera on the 5th; and others similarly affected entered it on the 4th.

Letchumana Perumal was (most probably) not infected while belonging to No. 5, for no case occurred amongst those with whom he had been confined in that cell, and had he been infected on the 2nd or 3rd or previous days, and even had the disease remained in the incubative stage until the 6th, on which day he was attacked, it seems very probable that some one of those who slept in the same cell with him on the 2nd, 3rd, or previous nights, would have been infected through him.

From this then it appears the cholera cause did not at any time exist in No. 5. It did not exist (so far as can be ascertained) in No. 3. It did not exist in No. 2. It did not exist in No. 4 until the 4th, when certain men from No. 1, suffering from what seemed to be diarrhoea, but which afterwards proved to be cholera, were transferred to it, with one sound man from No. 5.

Of the eight men attacked by cholera, two only were admitted into jail within the limits of the incubative stage, *viz.*, Moothoo Nadan and Letchumana Perumal.

It has been shown to be highly probable, that Letchumana Perumal was not infected until the 4th November, and, consequently, that he did not bring the disease with him into the jail on admission; consequently the only man amongst the attacked, who was admitted within the limits of incubation, and who, there is no reason to suppose, was infected in the jail, was Moothoo Nadan. He was admitted six days before he died of cholera, and he came from an infected district. He was also amongst the first attacked. He was the first who succumbed, and he succumbed the quickest.

For these reasons, and those which are previously set forth, I am inclined to believe that Moothoo Nadan was admitted

\* This reasoning of course rests on the supposition that, if the cholera cause existed in the cell, it would produce cholera in one or more of its occupants.

into jail with cholera in its incubative stage upon or in him, that he was confined in No. 1 cell, that by or through him the cholera was introduced, and that it spread by contagion. If such was the case, it is a plain case of contagion. It shows how among several lots of people, living under exactly similar conditions, as to air, water, food, and soil, within a very limited area, but isolated, partly by day and completely by night, in different cells and yards, one lot may suffer from cholera, and the other remain uninfluenced by it.

It shews, that a very limited distance, if perfect isolation be observed, may be sufficient to secure one from infection.

It points out the use of and the necessity for observation wards, and the danger of allowing healthy men to sleep in wards with patients suffering from slight diarrhoea; for in this case the diarrhoea was so slight as to cause no anxiety.

It also illustrates how short the incubative stage may be.

Finally, it demonstrates, in the most striking manner, the excellent results, which sometimes follow a prompt and judicious move from an infected locality.

The epidemic started at a sharp pace—four cases on the 5th, two on the 6th, and two on the 7th; but not one occurred after moving out at noon on the 6th, for the two mentioned as occurring on the 7th, there can be little doubt, brought the disease with them from the jail. Of course it may be said that the "marching out" and the disappearance of the epidemic may not stand in the relative positions of cause and effect, but this case adds one more to the many cases, in which the two stand in the suggestive positions as to time of "marching out," first lessening, or (as in this case) complete disappearance of epidemic second.

A good result followed the marching out of the 24th Regiment, M.N.I., here at about the same time.

I must not let pass this opportunity of expressing a very strong opinion that nothing short of the most weighty reasons should ever be allowed to interfere with "marching out," and that whether it be from a ground-infected area or from the cells of a jail, or the barrack or huts of a regiment, the transfer to pure untainted air, or ground, or both, must as a rule be followed by good results. I believe this view to be supported by a very large number of facts, and that the importance of acting upon it cannot be exaggerated.

PALAMCOTTAH, April 1877.

## OPIUM-EATING.

By VINCENT RICHARDS.

IN the January, 1872, number of the *Indian Medical Gazette* is an article on "Opium," written by Dr. Moore, wherein that gentleman states that, from personal observation, he arrives at the conclusion, "that opium-eating when moderately indulged in—as it generally is—produces no decided or even appreciable ill effect." Moreover, that the use of opium, under certain circumstances, is beneficial. Dr. Eatwell, in his report to the Government of Bengal, on the cultivation of the poppy, 1851, while affirming that no injurious effects of the habitual use of the drug are visible on the mass of the people (Chinese), maintains that "the question can never be settled in a manner to satisfy impartial and philosophical enquirers, until the demonstrative evidence of statistics shall be brought to bear upon the subject." In the hope, therefore, of being able to contribute some further information, and to test the accuracy of Dr. Moore's conclusions, I directed my attention specially to the subject, and now venture to place on record the results of my enquiry. There is no habit, or even vice, that has been the subject of such fiery declamation as opium-eating. I have met with many specimens, but few to equal the following in bitterness, and I may add in absurd extravagance. It is written by the Rev. A. T. Thelwall, whose knowledge of the subject was derived from the perusal of "documents and



papers," contributed by individuals who seem to have credited Mr. Thelwall with unlimited gullibility. "It is said," remarks this gentleman, "to materially shorten the term of life; to stupify and destroy the intellectual powers; to utterly corrupt the moral sense; to deprave and brutalize the heart; to shut up all the avenues to conscience, and make its victim the easy prey to every temptation that presents itself. In short, it is said to annually demoralize millions and to destroy myriads." After reading this it is somewhat startling to find that Mr. Thelwall's only object was to place "a statement of the facts of the case" before the public. If you are inclined to suggest that many of these remarks apply with more truth to habitual drunkenness, you are informed that "there is but one point of difference between the intoxication of ardent spirits and that of opium deserving of particular attention, and that is, *the ten-fold force with which every argument against the former applies to the latter.*" It must be confessed these are sentiments pretty strongly and authoritatively expressed for a writer who admittedly never in his life saw a man under the influence of opium.

The following highly imaginative picture of a Turkish opium-eater, extracted from "Carue's Letters from the East, 1826," is of interest, though one of an enquiring turn of mind might be led to ask how Carue came to know so much about the feelings of the Theriakie, while under the influence of opium. "The practice of eating opium does not appear to be so general with the Turks as is commonly believed. But there is a set of people at Constantinople devoted to this drug; and the Theriakis, as they are called, have that hollow and livid aspect; the fixed dulness of the eye at one time, or the unnatural brightness at another, which tell too plainly of this destructive habit. They seldom live beyond thirty, lose all appetite for food, and as their strength wastes, the craving for the vivid excitement of opium increases. It is useless to warn a Theriakie that he is hurrying to the grave. He comes in the morning to a large coffee-house, a well-known resort for this purpose, close to the superb mosque of Suleimanieh. Having swallowed his pill he seats himself in the portico in front, which is shaded by trees. He has no wish to change his position, for motion would disturb his happiness, which he will tell you is indescribable; then the most wild and blissful reveries come crowding on him. His gaze fixed on the river beneath covered with the sails of every nation, or on the majestic shores of Asia opposite, or vacantly raised where the gilded minarets of Suleimanieh ascend on high—if external objects heighten, as is allowed, the illusions of opium, the Turk is privileged. There till the sun sets on the scene the fancy of the Theriakie revels in love, in splendor, or pride. He sees the beauties of Circassia striving whose charms shall most delight him, the Ottoman fleet sails beneath his flag as the Capitan Pacha; or seated in the divan, turbaned heads are bowed before him and voices hail the favoured of Alla and the Sultan. But evening comes and he awakes to a sense of wretchedness and helplessness, to a craving hunger which is an effect of his vice, and hurries home to supper till the morning sun calls him to his paradise again." Supposing all this to be true, it is very sad, no doubt, but the debauched creature here depicted is virtuous in comparison with the habitual drunkard.

The statistics with which I am about to deal were collected by me when I was in medical charge of Balasore, in Orissa, where opium-eating is extremely common. I estimated that about one in every twelve or fourteen of the adult population used the drug, but I believe the habit is somewhat increasing. The greatly increased consumption of the drug dates from the famine year 1866, when it was, if I remember rightly, nearly trebled, since when it has, I believe, pretty steadily increased. This is not the result of a growing abuse of the drug by individual consumers, but of a more extended use of it amongst the general population. There can be no doubt that opium-eating

was greatly resorted to in the famine year, because it mitigated the sufferings arising from hunger and sickness, and enabled the poor people to exist on less food. The number of opium-eaters examined by me was 613, of whom 444 were men and 169 women. Of the 444 men, 29 were between 15 and 25 years of age, 87, between 25 and 35 years, 165, between 35 and 45 years, and 163, above 45 years. Thus, then, by far the greater number were over 35 years of age. Of those above 45 years, 56 were between 45 and 50 years, 74 between 50 and 60 years, and 33 above 60 years. Of the 169 women, 10 were between 15 and 25 years of age, 33 were from 25 to 35 years; 47, from 35 to 45 years, and 79 were above 45 years of age. Here, also, the proportion of those above 35 years of age is greater. Many were over 50 years of age and not a few 60. It must be understood that the ages are not given as exact; they are, however, approximately correct and arrived at after careful inspection and enquiry.

These remarks apply equally to the following, though the periods are not likely to be very inaccurate as they embrace such a number of years. Not a few mention the famine year, 1866, as the time at which they first contracted the habit. Of the men, 274 are said to have taken the drug for from 3 to 10 years; 100 for from 10 to 20 years; 48 from 20 to 30 years; and 22 for more than 30 years. Of the women, 104 for from 3 to 10 years; 43 for from 10 to 20 years; 14 from 20 to 30 years, and 8 for more than 30 years. The average ages at which the habit was commenced were amongst the men from 20 to 26 years, and amongst the women from 24 to 30 years. The majority of eaters take their opium twice daily morning and evening, but not a few, in the evening only. Much depends upon the dose, and whether the person has been long addicted to the habit. The well-to-do people mix the drug with water and strain before drinking, but poor people, probably on the principle that they like as much as they can get for their money, swallow it just as it is sold by the opium-vendor. The quantity taken varies from 2 grains to 45 grains or more daily; but as I shall show, large doses are quite the exception, especially amongst the poorer classes. Of the 444 men, 266 took from 2 to 4 grains daily, 151 from 4 to 12 grains, 18 from 12 to 16 grains, and only 9 more than 16 grains; average 7 grains. Of the 169 women, 132 took from 2 to 4 grains, 32 from 4 to 12 grains, and 4, only, from 12 to 16 grains—not one took more than 16 grains. Average 5 grains. The dose when large has always been gradually increased from the beginning, but it is not at all unusual to find, when the dose is small, that there has been no increase at all. There is not, therefore, that craving for increasing doses, which is generally supposed to exist. Nor do the 5 or 7 grains as sold by the vendors, represent the actual amount of pure drug, as it is not unfrequently adulterated with catechu and other substances\* How insignificant are these doses compared with the 380 grains taken daily by De Quincey. I think it must be conceded that the foregoing data prove conclusively that excessive use of opium amongst the numbers of the agricultural classes—and they are the chief consumers—in Orissa is very rare indeed, and that its moderate use may be, and is indulged in for years, without producing any decided or appreciable ill effects, except, perhaps, one to which I shall allude hereafter, though it is a question whether the fact is not rather a blessing, from a humanitarian point of view, when we consider how prone destructive agents, such as war, famine, and pestilence, are to begin their work of destruction immediately the process of population proceeds too rapidly. As to the causes which first lead to the use of the drug, they may be summed up as follows:—Sickness, example, and a

\* It is stated in the *Ulfaz Udviyeh*, compiled by Noureddeen Mahomed Abdullah, Shirazy, Physician to the Emperor Shah Jehan, that the quality of opium is cold 4, and dry 3. (The 1st degree—makes imperceptible impression unless reiterated; 2nd degree, more powerful, but not so much as to occasion any visible injury; 3rd degree, essentially hurtful, but not so as to destroy; 4th kills or materially injures.) The dose is given as the weight of a pea.



If the dots be connected the Chart will be made clearer.